

T **News Letter** **TDARS**

G3ZME
G6ZME

TELFORD AND DISTRICT AMATEUR RADIO SOCIETY

www.TDARS.org.uk

FOUNDED 1969

www.TelfordHamfest.co.uk

Issue 273

April-May 2016

www.TDARS.org.uk

Programme

www.telfordhamfest.co.uk

April 20 Show and Tell evening. Focusing on construction & tools used.

April 22-24 (Fri-Sun) Int. Marconi Day. GB8MD from Tywyn, West Wales. (M0JZH)

April 27 PSUs —lab session. Types and potential QRM. Brian G6UDX

May 4 Committee Meeting—GX3ZME on the air (volunteers needed)

May 11 10 (or less) Minute Talks.—by members, for members.

May 18 DF-ing introduction—Eric M0KZB. (aka Foxhunting or Direction Finding)

May 25 Backpack Portable on LWV Field. Bring Your Own. (behind the Huntsman)

June 1 Committee Meeting—GX3ZME on the air (volunteers needed)

June 8 TBA

June 15 Preparation evening for 50MHZ and VHF NFD Contests

June 18-19 (weekend) 50 MHz Trophy Contest from Long Mynd. M/C G0UFE

June 22 2 metre DF Hunt within Little Wenlock #1

June 24-29 (Friday-Wednesday) GP3ZME/P Guernsey mini-expedition. M/C G3UKV

June 29 Informal summer social meeting. LWVH.

For Amateur Radio Exam Training—enquiries to Mike G3JKX (01952 299677)
For Morse Training and Morse Proficiency Tests Martyn G3UKV or Eric M0KZB.
For Equipment Loans & Returns contact Don M0TBQ.

Radio Amateur Exams- Latest: www.tdars.org.uk/html/training.html

Editorial

The recent **47th Annual General Meeting** (March 30) followed the usual format, but was exceptional in a couple of ways at least. Turnout was good, with about 35 present in our meeting room, and the meeting started promptly at 8 o'clock.. However, the first unusual aspect was the presence of a guest visitor, Graham Coomber G0NBI, whom RSGB members will know is the retiring General Manager of the national Society. Graham and his wife Von came up from Bromsgrove where they live, at the invitation of the Committee to present the various trophies, and specifically a special award to Mike Street G3JKX, in recognition of Mike's phenomenal work in the training of more than 350 would-be radio amateurs in the last 15 years or so. With a bit of subterfuge, Mike's wife Barbara also came along for her first time ever as a guest.

So, after the formalities of the AGM (reported elsewhere), the Trophies and Awards were made by Graham, and it was at this point that the second exceptional event took place. This was a spontaneous Standing Ovation as Mike received his unique Jackfield Porcelain Tile and Certificate. This was followed by a presentation of flowers and certificate awarded to Barbara who has so kindly shared her home and privacy with countless weekend trainee visitors at their home in Priorslee. It really was a special occasion which will remain in Members' minds for a very long time, I'm sure.

Here are the two certificates (before they were signed by Eric) that were presented to Mike and Barbara. Perhaps a tad tongue-in-cheek for Barbara !

MIV



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**TELFORD & DISTRICT AMATEUR RADIO SOCIETY**

**CHAIRMAN:** Eric Arkinstall M0KZB (01743 240286)

**VICE-CHAIRMAN:** Martyn Vincent G3UKV (01952 255416)

**SECRETARY:** John Humphreys M0JZH (07824 737716)

**TREASURER:** Jim Wakenell G8UGL (01952 684173)

**CURATOR** : Don Nicholls M0TBQ (01952 411680)

**NEWSLETTER EDITOR:** Martyn Vincent G3UKV (01952 255416)

**PUBLICITY :** Dave GOCER (01630 638699 or 07971 416940, leave msg)

**Committee:** Simon G0UFE; Martin 2E0TRO; Brian G6UDX; Paul 2E0TIL; WebMaster: Dave G0CER; Trophies/  
Certs: G3UKV; QSL Man. Paul M0PNN; Assist. Curator: TBA; Village Hall Committee Liaison officer Martin 2E0TRO

# Qtc: News & Information



**TDARS MEETINGS EVERY WEDNESDAY AT LITTLE WENLOCK VILLAGE HALL UNLESS INDICATED OTHERWISE ON THE FRONT PAGE PROGRAMME. ROOM BOOKED FROM 7PM - 10PM. MEETINGS USUALLY COMMENCE AT 8PM**

**Please note: A current membership card must be shown to borrow TDARS equipment. Please return borrowed equipment promptly .**

The **47th AGM** opened with a welcome and the **Chairman's Report**. Eric covered a range of subjects—the increased use of GB3TF, the Icom 7600 purchase, our new Webmaster Dave G0CER, with thanks to Rob M0TOY for his services running the TDARS web until now. Further thanks to Speedy and his tea & coffee shop, Jim for keeping the treasurer's books, Martyn for the Newsletters, Mike 'JKX' for on-going tutoring, Paul 'PNN' for the QSL handling, Don 'TBQ' for overseeing equipment as Curator, John 'JZH' for secretarial duties, and indeed all the 2015-16 committee for their various contributions. Mention too of Martin's (2E0TRO) 'Roving eye' watching the affairs of the LWVH committee. Eric then scanned over events of the last year, and particularly the wide range of topics and guest speakers that we all had enjoyed. The passing (SK) of Joy Hall, a skilled telegraphist was noted, since she may well have come and told us about her career in morse code; but it was not to be. Further guest speakers are being sought all the time, and suggestions are always welcome.

Jim G8UGL then circulated the **2015-16 accounts** and noted that in all, nearly £5000 had been spent over the past year, but subscriptions and the HamFest income, plus some sales of equipment meant that TDARS funds are secure.

The **Auditors** for the coming year were agreed to be Dave G8VZT and Mike G3JKX.

**TDARS Subscriptions** were raised for the first time in many years by just £2, with the normal sub to be £30, non-earners at £24 and full-time students at £16. As usual, Jim reminded everyone that **subs are due** at the AGM.

The **election of the new committee 2016-17** took place. (see foot of page 2). Few changes took place. Rob M0TOY wished to resign, and Mike G3JKX (re)joined the committee, whilst Paul 2E0TIL (soon to be M0xxx) joined the committee for the first time.

Finally, our guest visitor Graham Coomber (G0NBI) accompanied by his wife Von (M6VAJ) **presented the various trophies and awards**.

**Jack Hassall** (member contributing most to tdars in the past year): Dave G0CER.

**Syd Poole G3IMP** (operating in the best traditions of A.R. on the air): Mike G6DFD

**Main Construction and Novice Construction** trophies: Shannon Ward M6CFP

**Under-a-Fiver Construction**: Paul 2E0TIL

**Kippure Trophy** (spoon/wooden spoon) : Shall be nameless, but he loves his Baofeng!

The **DF trophy** was NOT awarded this year as no DF events took place. Coming in 2016!

**Finally**, Graham made a brief speech and presented Mike street G3JKX with a special award and certificate for all his hard work. The certificate reads: **"Certificate of Merit awarded to Mike Street G3JKX in recognition of the extraordinary devotion of time and energy in preparing hundreds of candidates to take all levels of the Radio Amateurs' Licence Examinations."** This was followed by an impromptu standing ovation by all present.



Barbara (Mike's XYL) also received recognition for her contribution in the form of a bouquet and certificate.



**Mini DXPedition to Guernsey.** June 24-29th (Friday thru' Wednesday). All welcome. All bands, All day (and all evening!). Want to join? Not too late yet. Contact G3UKV

At the **Surplus Sale** in April, several items of Club equipment were purchased by club Members. Several other items are ***still available to members***, before they go on the open market, including: a MET 6m 5 ele yagi (~£25), Tonna dual 13 ele 2m (~£40), Icom AH-3 auto ATU 1.8-30 MHz (~£200. Usual cost about £375) and an MFJ 407d all-purpose Keyer (kindly donated by Allen G0AGC) (~£25). Once the Marconi Day event is over, the Icom 756 (the original version) will also be available, and the club is looking for about £450 for this excellent HF/6m Trancvr + data link.

In the past few months, there has been much interest in the International Space Station's (ISS) operations, with members monitoring both the down-link 2 metre FM contacts with schools around the UK from Tim Peake orbiting the Earth, and the recent SSTV (slow scan TV) pictures.



telfordhams

Decoding can be with MMTV software or Robot36 Android app.

A shot of the earth would be nice !



Another 'first' was the use of our **Club HQ for a contest**. Dave G0CER offered to use our special contest call (SCC) **G3Z** for the RTTY datamode contest run by BARTG in March, and invited other club members to 'Have-a-Go', or come along and observe. Eric lists the following who found the time to go to LWVH for a few hours—



***"Thank you to all who turned out for Dave's 'CER RTTY contest demo at the Little Wenlock Village hall today. Dave CER, Don 'TBQ, Graham 'LMF, Speedy 'KLS, Mike 'JKX, Bob 'RJS, John 'JZH, Brian 'UDX and Yours Truly 'KZB. Please excuse me if I have left you out, not intentional".*** A Report from Dave 'CER follows later in this Newsletter.

The **main construction Contest** took place just before the AGM, and there were nine entries this time round, including a keyer, variable PSUs, crystal set, and solid-state 'scope, multi testmeter, QRP 40m transceiver, Softrock 7-28MHz SDR tcvr, 23cm PA and 2m pre-amp. As usual, members voted by secret ballot, and the result was 3rd— Paul 2E0TIL's solid-state mini-oscilloscope, 2nd-Martyn G3UKV's variable PSU, but by a large margin, 1st- was Shannon M6CFP's Crystal set. Since this was her first entry, she also won the Novice Constructor's Trophy, pictured below. Congratulations! Shannon sends her '**Thanks**' to all Members.





As a step towards TDARS attracting younger members to join the club, and learning about amateur radio, several initiatives are in the pipeline to involve local Scouts and Guides. Graham G7LMF and John M0JZH are leading these developments, which have a potential audience of ~800 young people and adults. This year is the 100th anniversary of Cub Scout Section, and Graham has successfully obtained the special callsign **GB100TVC** (Tern Valley Scouts), which will be in force for the rest of the year (not the usual OfCOM 28 days). Dates already at the planning stage include a camp at Hawkstone Park (June 24-26), Attingham Park (24 Sept.) and JOTA at The Wrekin Scout Camp venue (October 15-16). See also **QRZ.com** for info re GB100TVC.

Mike, G6DFD has circulated this update re Baofeng Hand-helds and the Chirp Software. "I've heard some people are having problems programming their radios using the free Chirp software. I downloaded a driver for the USB cable and the Chirp software and in 10 minutes it was working. I then programmed my Yaesu 7900, UV5R and GT3 TP. No problems and the software is easy to use if you've ever used a spread-sheet. Someone recently told me that there was no need to load a driver for the cable because Windows 10 would automatically load one. That's progress I thought, but no, its not that simple. I was using an old laptop with Win XP and apparently later versions of Windows block the Prolific chip or clones, so the latest Win drivers are unlikely to work. Also check the simple things and first make sure the 2 pin socket on the USB cable for the Baofeng is pushed in properly. They can be hard to fully locate. Good Luck with your programming."

As previously noted, Dave Harris G0CER has taken over from Rob M0TOY as the Webmaster for the club's Website. Our thanks to Roy for doing a great job over several years—it has been constantly updated and developed during his time in the hot seat. Dave has replaced the old website layout using the widely accepted Wordpress software. It is very different, but has several advantages and is more compatible with Smart Phones and the like. It is intended that more than one person will now be able to make updates and edit text, links and photos. Alongside these changes, Facebook and Twitter links have become established and widely used by members and others, which is the way of the world!

Paul M0PNN has once again taken on the job of being QSL manager for the Club for another year. To give Members some idea of the enormity of this task, Paul commented that he had just posted (mid March) almost 2 kilos of cards to G, I, EA and DL for the calls **G3ZME G3Z, GX3ZME, GX6ZME, GB100TMD, GB8MD, GB0TSR, GB0WPB, GT3ZME, GP3ZME, GC3ZME**. He also mentions that Club Log saves him time, and the Club money. Many thanks, Paul, for all your hard work in the background.

Following the AGM (March 30), Eric 'KZB received this E-mail:-

"Hello Eric,

Many thanks for your email. It was a pleasure to be invited and experience the "buzz" that the club generates amongst its members. As a member of my local radio club, I know only too well that clubs rely heavily on their chairman and committee members to "set the tone" and ensure the success of the club, and I could not fail to be impressed by how many of your members were prepared to step forward and volunteer their services to get involved. I am sure that the club will go from strength to strength, but may I take this opportunity of wishing you well for the future.

Best Wishes

Graham Coomber, G0NBI. General Manager Radio Society of Great Britain"

A CVS 'Grassroots' grant of £138 for installation of a phone-line link (Internet) to LWVH has just been received.

**Thanks for Newsletter input this time: Photos M0RJS/M0KZB, G1MHU. Also Paul M0PNN, Mike G3JKX, Brian G6UDX, Mike G6DFD, Graham G7LMF, Dave G0CER. Next edition June or July: Keep it coming please!**



## Mike's Piece: April 2016

Sunspots are now disappearing at a phenomenal rate, on the down-slope of the 11 year cycle. So the bands above 40m are going to be very poor for several years. There are some good things about this though. The noise levels on Top Band and 80 metres are going to be so much lower. This means DX will be possible on the lower bands, IF you have a good aerial for those bands. What does good mean?

Ideally you need a low angle of shoot, so having a ¼ wave vertical with a decent set of counterpoises is ideal. I used to have QSOs with VK6HD (now SK) on 80m with a loaded ¼ wave whip and just 2 counterpoises. One along the top of the garden fence and one along the ground at right angles. Loaded whip, what does that mean? Basically a way of not having 66 feet of vertical up in the sky. So how to reduce the length and still keep the aerial efficient?

As you know, max radiation from most aerials is from where the coaxial cable joins on to it. So by having the coax cable feed several feet of vertical copper tubing, with a fibreglass fishing pole on top, with the wire twisted round it and joined on, you then have a much shorter aerial.

I am not a lover of so called 'long wire aerials', but on 160m these work well. But a quarter wave is about 130 feet long and we need a VERY good ground earth and/or counterpoises to make a virtual earth. Many people lay chicken netting on their lawn and let the grass grow through which completely hides it. Along the top the fences work too. "But I haven't got a 130 foot garden" you say. What can you do? You can allow several feet of the wire to hang vertically from the end, weighted with a bottle of water keeping the wire taught. There is hardly any radiation from the free end anyway, so you're not losing much. Make sure this loose end is out of reach of children. The RF on the end of an aerial is quite shocking and BURNS!!!

You could use your 80m vertical (which you have mounted as far away from the house as possible) with 66ft of horizontal wire from the top back towards your shack.

Do not worry about the length of coaxial cable you will need to reach the bottom of the garden, because the losses at these low frequencies are very small, so you can use cheapo cable. However, make sure the polythene insulator is completely covered with screening and you have made any joins completely waterproof. Never let water gets into the coax.

You have been warned! Easiest is liquid rubber from a bottle!

So, take advantage of the coming low sunspot activity, have a go on 160 and 80m, especially with the digital modes and work the world. DXCC on 160m is VERY hard but not impossible.

Oh, by the way, 6m E layer propagation is just starting up. I heard a burst from an IT9 station only this morning.  
Have fun.  
73 Mike G3JKX



Also from Mike 'JKX. . . ."***Hi Martyn. Thought that you would appreciate a photo of me with my special birthday cake. The two 'hobbies' in my life, amateur radio and choral singing in one cake. You may note that the radio isn't one. It is an AMU!***

***Lovely thought, though, by my daughter Ursula."***

***From Mike G6DFD . . . . .***

Full list of fusion repeaters and gateways in the UK. Anyone who thinks Fusion and Wires-X is not happening in the UK needs to wake up.....

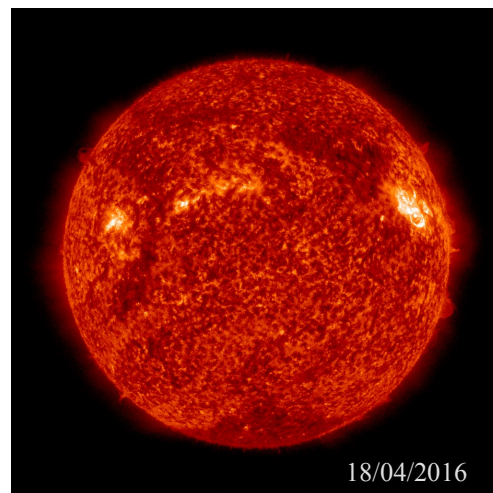
GB3AA, GB3AN, GB3BP, GB3CD, GB3DD, GB3DM, GB3DT, GB3GR  
GB3HA, GB3HC, GB3HD, GB3HS, GB3KE, GB3KW, GB3LH, GB3LM  
GB3MK, GB3MN, GB3NA, GB3NP, GB3PR, GB3PU, GB3RF, GB3SS  
GB3TF, GB3TJ, GB3TS, GB3TW, GB3VM, GB3VN, GB3WF, GB3WI, GB3WR,  
GB3ZA, GB3ZL

GB7CF, GB7CM, GB7CS, GB7ER, GB7HF, GB7IE, GB7IS, GB7PT, GB7RY, GB7SH, GB7SJ, GB7SX, GB7TO

MB6GX, MB6IAB, MB6IAD, MB6IDB, MB6IDG, MB6IEH, MB6IEI, MB6IFT

MB6GA, MB6HAE, MB6HAE, MB6HDE, MB6HDS, MB6HET, MB6HET, MB6H F  
MB6IGX, MB6IGZ, MB6IJR, MB6IKC, MB6ILE, MB6IMF, MB6INE, MB6IPO

MB6IRH, MB6IRT, MB6ISF, MB6IWD, MB6IWH, MB6IWN, MB6IXY MB6MS, MB6RM, MB6RP, MB6WA, MB6WX



## How to modify AT and ATX Computer Power Supplies —By Brian G6UDX

Before you scrap that dated PC - think!

You may be throwing away a reasonable quality Switched Mode Power Supply with a number of useful voltages. Following the instructions on the two attached articles might save you several 10s of pounds.

Should you want a 24v or 36v supply, despite what some authorities say, it is possible to successfully connect a number of SMPSs in series provided a few simple rules are followed. Firstly I strongly recommend that all units are the same model. Or failing that, at least the same, wattage output.

Firstly modify each of the PSUs following the instructions for a singleton.

If you really must use SMPS of different type, note the maximum current you may safely draw will be that of the lower rated one.

**IMPORTANT: “First off, a warning about working on AC powered equipment...ALWAYS make SURE the equipment is unplugged!**

**Be aware working with almost any voltage has its hazards. The author(s) accepts no responsibility for loss of eyebrows, any other injury or divorce by the XYL in attempting the procedures detailed here.”**

The following shows how I alter a **surplus AT** (not ATX) computer power supply to power 12VDC CNC projects. SOME require the 8R 20W resistor and some do not. IF yours turns on (the fans starts) and outputs 12VDC then fore-go the resistor. MOST today require it! Do this modification at your own risk.

Don't blame us for anything. I'm providing this as a courtesy.

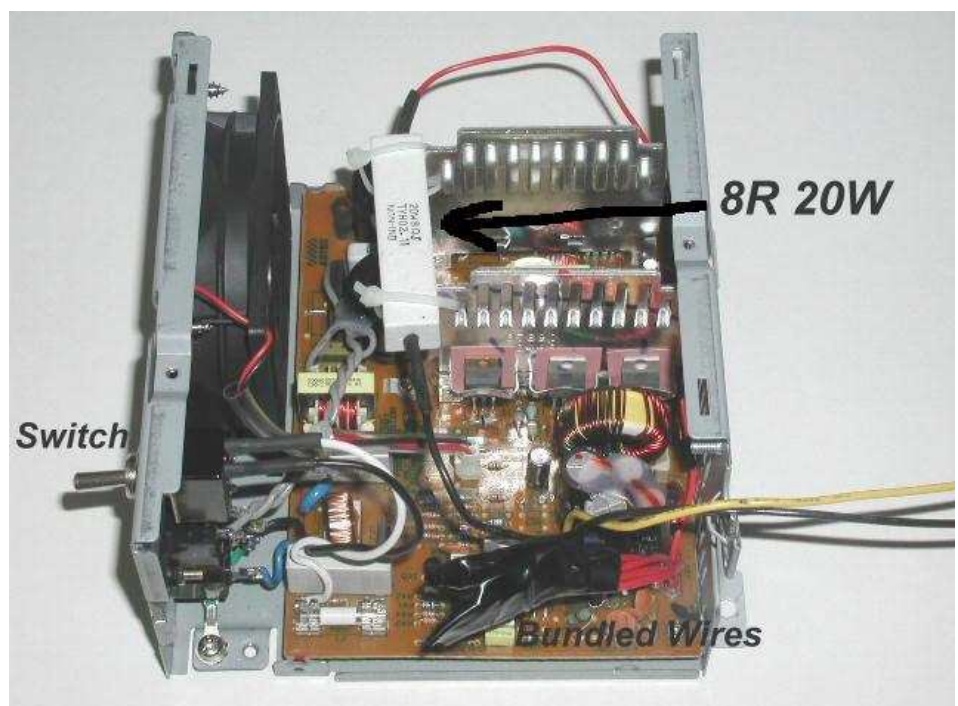
Materials needed include the AT power supply rated at least 8A 12VDC, 2pcs 8R 20W resistor (Radio Shack #271-120), either a SPST switch (Radio Shack #275-602) or a DPDT (Radio Shack #275-666) depending on what your power supply uses, tie wraps, and black electricians tape.

Start by removing the cover and separating 2 heavy black wires (common), 1 heavy red wire (+5VDC), and one heavy yellow wire (+12VDC). Now clip all the rest off at about 2-3" from the PCB. Tape the like coloured wires together in a bundle. The white, blue, and orange wires can be cut off very short and left alone. Now tape the bundles together. Next step is to determine the best place to mount the switch and drill the hole (1/2"). Be sure to get ALL of the metal shavings out of the case! Mount the switch and solder the existing switch wires to the new one trimming them to length. Use tape or heat shrink tubing on these joints.

Mount the 2 8R, 20W resistors to any convenient place in front of the fan with the tie wraps. Solder 1 black wire and the red wire to them forming a parallel circuit (resulting in 4 Ohms). Fish the remaining black and yellow wires out of the case. Attach the top and your done.

Of course you can mount Banana Jacks to the case too! Below is an example of one I just completed.

(Only 1 8R resistor is shown, you'll get more volts with 2 in parallel) Dave Rigotti"





**Continued: How to Modify an ATX Computer Power Supply**  
**IMPORTANT: First off, a warning about working on AC powered equipment...**  
**ALWAYS make SURE the equipment is unplugged!**

The following shows how I alter a **surplus ATX** (not AT) computer power supply to power 12VDC CNC projects.

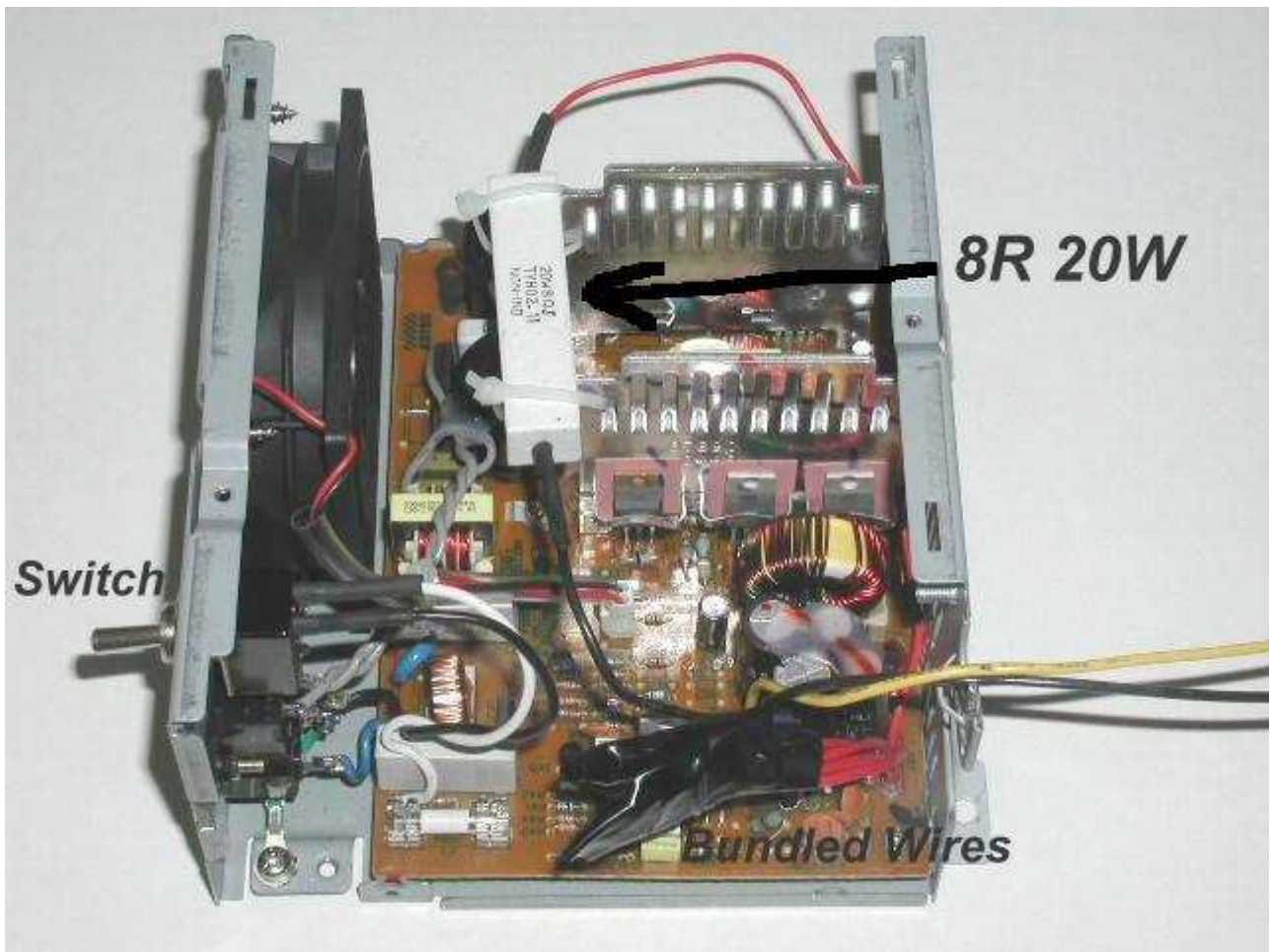
Do this modification at your own risk. Don't blame us for anything. I'm providing this as a courtesy only!

Materials needed include the ATX power supply rated at least 8A 12VDC, 2pcs, 8R 20W resistor (Radio Shack #271-120), tie wraps, and black electricians tape.

Start by removing the cover and separating 3 heavy black wires (common), 1 heavy red wire (+5VDC), the only green wire, and one heavy yellow wire (+12VDC). Now clip all the rest off at about 2-3" from the PCB. Tape the like colored wires together in a bundle. The remaining coloured wires can be cut off very short and left alone. Now tape the bundles together.

Next step is to trim 1 black and the green wire to about 4", solder together, tape the joint, and tuck out of the way. Mount the 2 8R, 20W resistors to any convenient place in front of the fan with the tie wraps. Solder 1 black wire and the red wire to them forming a parallel circuit (resulting in 4 ohms). Fish the remaining black and yellow wires out of the case. Attach the top and you're done. Of course you can mount Banana Jacks to the case too!

Below is an example of one I just completed. (Only one 8R resistor is shown, you'll get more volts with 2 in parallel) Dave Rigotti"

[illegible]

**Local Nets: 144.600 MHz FM—Sunday evenings from 21:00**  
**Also Mon/Friday 3.657 MHz SSB at 8:45am (open to all)**



## **From Dave G0CER :- (e-mail 19 March: RTTY data mode in BARTG Contest)**

“Thanks to everyone who came along and loaned equipment this afternoon and to Martin 'TRO for getting access to LWVH.

All we had against us was the poor state of the bands - but still we worked a few stations and Speedy and Graham who had a go at some part of our hobby, that (I think) they'd never tried before.

Only 2 stations on 21Mhz and the rest on 14Mhz, operating for a couple of hours. With 15 and 10 being so terrible, we spent a lot of time searching up and down 20m trying to find stations that had not been worked before. 10m was just station-less!

We had John 'JZH's FT857 running into the club's HF antenna and a laptop running Windows 10 with MIXW software running, some custom macros specifically for the contest (created by a Russian station who make a lot of DLLs and macros for contests. They were curious in their own way, and we didn't mess up too many times!

I think we had about 9 people overall - someone may be able to correct me.”

[Dave also included a copy of the computer log – Ed]

### **Mike G3JKX sent this useful reference chart.**

| Picofarad (pF) | Nanofarad (nF) | Microfarad (uF) | Code | Picofarad (pF) | Nanofarad (nF) | Microfarad (uF) | Code |
|----------------|----------------|-----------------|------|----------------|----------------|-----------------|------|
| 10             | 0.01           | 0.00001         | 100  | 4700           | 4.7            | 0.0047          | 472  |
| 15             | 0.015          | 0.000015        | 150  | 5000           | 5.0            | 0.005           | 502  |
| 22             | 0.022          | 0.000022        | 220  | 5600           | 5.6            | 0.0056          | 562  |
| 33             | 0.033          | 0.000033        | 330  | 6800           | 6.8            | 0.0068          | 682  |
| 47             | 0.047          | 0.000047        | 470  | 10000          | 10             | 0.01            | 103  |
| 100            | 0.1            | 0.0001          | 101  | 15000          | 15             | 0.015           | 153  |
| 120            | 0.12           | 0.00012         | 121  | 22000          | 22             | 0.022           | 223  |
| 130            | 0.13           | 0.00013         | 131  | 33000          | 33             | 0.033           | 333  |
| 150            | 0.15           | 0.00015         | 151  | 47000          | 47             | 0.047           | 473  |
| 180            | 0.18           | 0.00018         | 181  | 68000          | 68             | 0.068           | 683  |
| 220            | 0.22           | 0.00022         | 221  | 100000         | 100            | 0.1             | 104  |
| 330            | 0.33           | 0.00033         | 331  | 150000         | 150            | 0.15            | 154  |
| 470            | 0.47           | 0.00047         | 471  | 200000         | 200            | 0.2             | 254  |
| 560            | 0.56           | 0.00056         | 561  | 220000         | 220            | 0.22            | 224  |
| 680            | 0.68           | 0.00068         | 681  | 330000         | 330            | 0.33            | 334  |
| 750            | 0.75           | 0.00075         | 751  | 470000         | 470            | 0.47            | 474  |
| 820            | 0.82           | 0.00082         | 821  | 680000         | 680            | 0.68            | 684  |
| 1000           | 1.0            | 0.001           | 102  | 1000000        | 1000           | 1.0             | 105  |
| 1500           | 1.5            | 0.0015          | 152  | 1500000        | 1500           | 1.5             | 155  |
| 2000           | 2.0            | 0.002           | 202  | 2000000        | 2000           | 2.0             | 205  |
| 2200           | 2.2            | 0.0022          | 222  | 2200000        | 2200           | 2.2             | 225  |
| 3300           | 3.3            | 0.0033          | 332  | 3300000        | 3300           | 3.3             | 335  |

Also from Mike G6DFD:-

**The following repeaters are in the "Room" called the UK-Net-Hub.**

The following repeaters & gateways to the WIRES-X internet linked -UK-Net-Hub- GB3BP GB3HD GB7TQ GB7RY GB7KW GB3TW MB6IRH MB6IEI MB6IXY MB6GX MB6IJR MB6IWD MB6WX MB6WA MB6IWH MB6IFT MB6IMF.... /Stuart, M0SGS